The Technological Design and Problem-Solving Process

1. Define the Problem
- Break Problem into smaller pieces if needed.
- State the Root of the Problem

2. Research / Investigation
- Identify All Constraints
- Gather Related Data
- Identify Existing Designs

3. Create Possible Solutions
- Brainstorm
- Sketch Ideas – Have at least two
- Record any Notes

4. Choose the Best Solution
- Develop a Sorting System or Comparison Grid
- Compare to Specifications

5. Developmental Work/Analysis
- Make any Needed Calculations
- Create Working Drawings
- Build models if appropriate

6. Construct A Prototype
- Make Subcomponents if Needed
- Purchase Parts if Needed
- Assemble all Parts and Complete Prototype

7. Testing and Evaluation
- Test for: Quality, Performance and Safety
- Document Results of Test and Evaluation

8. Make a Decision
- If Solution is good: Produce Product!
- If product fails: Review previous steps